Abstract

Background: The use of invasive catheters to monitor hemodynamic readings is common in the critical care setting and requires the use of specialized equipment. Variation in equipment set-up impacts operational efficiency and creates the potential for improper patient treatment based on inaccurate readings.
Local Problem: The methodology of setting up and maintaining hemodynamic pressure lines in the critical care units lacked structural and processional measures, creating the potential for patient harm.
Methods: Multimodal strategies, guided by the Model for Improvement, were used to increase the use of evidenced-based methods for setting up and maintaining invasive hemodynamic lines in the critical care units.
Interventions: A project team was assembled. Related compliance data was collected for two weeks prior to implementation of project interventions. Team members acted as unit champions and assisted with educational activities within their units. All necessary equipment was made available to aid enabling behaviors. After two weeks of interventions, data measures were collected for two weeks.
Results: Pre and post interventional data was analyzed for statistical significance. Compliance measures increased by 24-29% for the objectives which addressed proper leveling of the transducers. Compliance for the objective of replacing all vented caps with non-vented caps only improved by 4%, and was the only measure whose increase was not statistically significant.
Implications: Provision of proper structural and ~~processional~~ measures increased the use of evidence-based methods for setting up and maintaining invasive hemodynamic lines, reducing potential patient safety risks.
Keywords: Transducers, Pressure Monitoring, Phlebostatic Axis, Hemodynamic Monitoring